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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/617,068

07/10/2003

Yeong-Taeg Kim

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04/06/2006

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EXAMINER

HARRISON, CHANTE E

ART UNIT

PAPER NUMBER

2628

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/617,068	Applicant(s) KIM, YEONG-TAEG	
	Examiner Chante Harrison	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
 4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 22-30 in the reply filed on 1/17/06 is acknowledged. The traversal is on the ground(s) that the claim designations of claims 1-30 are misplaced. This is not found persuasive because the species lack the same or corresponding special technical features because of the different embodiments for the suppression of the ringing artifact in an image.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 22-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Kusakabe et al, US 2005/0031223 A1, 2/2005.

As per independent claim 22, Kusakabe discloses a ringing-artifact detector (Fig. 1 "104") that detects areas of ringing artifacts in a pixel window based on the pixel

Art Unit: 2628

information (pp. 7, Para 107), the pixel window including a set of pixels from the input image pixels (pp. 2, Para 16; Fig. 6B); an image processor (pp. 2, Para 15) that processes window pixels to generate pixels with reduced ringing artifacts (Fig. 11); and a combiner (i.e. output means) (pp. 2, Para 15) that selects the processed pixels with reduced ringing artifacts in the detected ringing-artifact areas, and generates an output image comprising; (i) the selected processed pixels with reduced ringing artifacts, and (ii) the remaining window pixels (i.e. "noisy" pixels are given substitute values based on a process to reduce noise; and the output image is a combination of the non-noise pixels and the substituted pixel values with noise suppressed) (pp. 7, Para 113; pp. 8, Para 122-124; Fig. 11).

As per dependent claim 23, Kusakabe discloses the ringing-artifact detector detects the areas of ringing in the pixel window as a function of gradation level difference between one or more pixels therein (i.e. a luminance/gradation difference between pixels is used as a parameter for determining noise) (pp. 7, Para 109; pp. 8, Para 127; Fig. 13).

As per dependent claim 24, Kusakabe discloses the ringing artifact detector determines the gradation level difference between a pixel and that of neighboring pixels (pp. 9, Para 137), and detects if the gradation level difference is within a selected threshold, indicating ringing-like artifacts proximate that pixel position in the window (pp. 11, Para 169).

Art Unit: 2628

As per dependent claim 25, Kusakabe disclose the image processor included a low pass filter that reduces ringing artifacts (pp. 1, Para 8; pp. 8, Para 132).

As per dependent claim 26, Kusakabe discloses the image processor includes a smoother (i.e. suppressor) that reduces ringing artifacts (pp. 1, Para 14; pp. 8, Para 132; Fig. 1A "104").

As per dependent claim 27, Kusakabe discloses a variance detector that determines local variance of each pixel in the window with respect to neighboring pixels (pp. 7, Para 107-109); a signal detector that based on the local variances, detects if the location of the window is proximate a noisy area in the input image (i.e. the threshold values of the luminance parameters are used to detect noise/signal when comparing pixels within a window; such that the window size is adjusted during the noise suppression process to sufficiently reduce noise) (pp. 7, Para 114; pp. 8, Para 120); such that the combiner further selects pixels with reduced ringing artifacts from the processed pixel (pp. 8, Para 122-124), based on the detected ringing artifact areas and the detected window location information (pp. 2, Para 16), and generates that enhanced output image comprising; (i) the selected pixels, and (ii) the remaining window pixels (pp. 7, Para 113; Fig. 11A).

As per dependent claim 28, Kusakabe disclose the combiner pixels with reduced ringing artifacts from the processed pixels in the detected ringing artifact areas, based on the window location information (pp. 8, Para 122-124).

As per dependent claim 29, Kusakabe discloses the combiner selects pixels with reduced ringing artifacts from the processed pixels in the detected ringing artifact areas, substantially in noisy picture locations (pp. 8, Para 122-124).

As per dependent claim 30, Kusakabe discloses the input image comprises a decompressed image (i.e. input image having an enlargement ratio corresponds to a decompressed image) (pp. 12, Para 182).

Conclusion

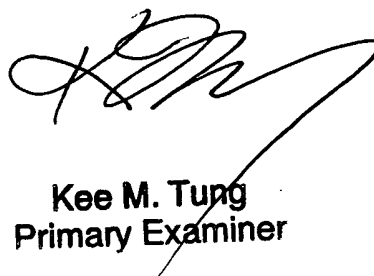
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chante Harrison whose telephone number is 571-272-7659. The examiner can normally be reached on Monday, Tuesday and Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chante Harrison
Examiner
Art Unit 2628

Ch
March 28, 2006



Kee M. Tung
Primary Examiner